WHAT IS CLAIMED:

1. A data storage system, comprising:
a source of heat;
a substrate;
a write layer disposed above the substrate;
a copy layer disposed above the write layer,
a flying head disposed above the layers and carrying the source of heat for heating a selected spot on the copy and writer layers,
wherein the write layer comprises a ferromagnetic material selected to have an extremely high coercivity at room temperature and a very high write temperature T_{write}, and the copy layer comprises a ferromagnetic material selected to have a coercivity always less than the coercivity of the write layer at the same temperature and a copy temperature T_{copy} substantially less than the writer temperature of the write layer.

2. A system as claimed in claim 1 wherein the write layer comprises TbFeCo and the copy layer comprises Co/Pt.

3. A system as claimed in claim 2 further comprising an additional inner layer intermediate the copy layer and the write layer to mediate the coupling between the layers.

4. A system as claimed in claim 3 wherein the inner layer comprises Pt.

5. A system as claimed in claim 4 wherein the inner layer comprises a thickness of zero to 5 nm.

6. A system as claimed in claim 5 wherein the inner layer is 0.5 to 1.0 nm.

7. A system as claimed in claim 1 wherein the copy layer is deposited over the write layer by the steps of depositing first the layer of TbFeCo, and then

depositing a copy layer of Co/Pt.

8. A system as claimed in claim 7 wherein the step of depositing the Co/Pt comprises depositing 0.3 nm Co/1.0 nm Pt repeated 13 times.

9. A system as claimed in claim 8 wherein the Co/Pt superlattice is fabricated by DC magnitron Co sputtering from elemental Co and Pt targets onto a rotating substrate.

10. A system as claimed in claim 9 wherein a Pt layer is used to promote the desired polycrystalline texture of the Co/Pt superlattice copy layer.

11. A system as claimed in claim 9 wherein the TbFeCo composition is approximately $Tb_{24}Fe_{69}Co_7$ atomic per cent.

12. A system as claimed in claim 8 wherein the write layer comprises TbFeCo, and the copy layer comprises FePt.

13. A system as claimed in claim 8 wherein the write layer comprises TbFeCo, and the copy layer comprises CoFePt super lattice.

14. A system as claimed in claim 1 wherein the system comprises a rotating disc rotating past the flying head and comprising a plurality of concentric lands separated by grooves, each of the lands supporting a data track wherein the data is stored and being approximately, or substantially the width of the spot defined by the source of heat. Each of the lands comprising the substrate and the copy layer and write layer, and wherein the side walls of the lands each have a diminished thickness of the copy layer and the write layer relative to the land.

15. A system as claimed in claim 14 further comprising a polycarbonate substrate, and dielectric and reflector layers underlying the copy layer and write layer.

16. A system as claimed in claims 15 wherein the write layer comprises TbFeCo, and the copy layer comprises Co/Pt.

17. A system as claimed in claim 18 further comprising a layer of Pt intermediate the copy layer and write layer for mediating the coupling between these layers.

18. A data storage system comprising a spot size source of heat directed at a rotating disc having a plurality of data storage disc tracks thereon, the disc comprising a substrate, a write layer disposed above the substrate and a copy layer disposed above the write layer the system comprising a flying head disposed above the copy layer and write layer and carrying thereon the source of heat for heating a selected spot on the copy layer and write layer for reading data from the write layer, and wherein the write layer comprises means having an extremely high coercivity at room temperature and a very high write temperature wherein the coercivity is low enough to accurately write data on the write layer, and wherein the copy layer comprises means always having a lower coercivity than the write layer at a given temperature, and responsive to a certain defined temperature substantially less than the write temperature of the write layer to be coupled to the write layer and store a data bit already stored in the write layer inset copy layer without destroying the status of the data bit stored in the write layer.